CALIFORNIA
AND
WESTERN MEDICINE

VOLUME XXXIV JANUARY, 1931 No. 1

# FECAL VACCINES*

## THEIR USE IN CHRONIC ARTHRITIS AND CERTAIN SKIN DISEASES

### REPORT OF CASES

*By* WILLIAM H. STRIETMANN, M. D.
*Oakland*

DISCUSSION *by F. M. Pottenger, M. D., Monrovia; William J. Kerr, M. D., San Francisco; Fred H. Kruse, M. D., San Francisco.*

AS this paper purports only to recite the experiences of the writer with fecal vaccines during the past four and one-half years, reference to the results of others will be practically entirely omitted. The method employed is that of William B. Wherry of Cincinnati, Ohio, with slight modifications, and is described by Dr. Gertrude Moore, under whose supervision the vaccines have been made, as follows:

### TECHNIC OF THE MANUFACTURE

The patient is instructed to collect small representative specimens from well-mixed stool and submit such samples to the laboratory while as fresh as possible. Samples to be sent on four successive days.

The entire sample is immediately emulsified in physiological salt solution, using about 250 cubic centimeters of solution to each dram of specimen. The mixture is well shaken after which the solid particles are removed by centrifugalization for a short period at low speed. The turbid supernatant fluid is a bacterial suspension of fairly uniform distribution, and from it cultures are made as follows:

Three enriched glucose agar plates are streaked from each specimen. All are incubated for forty-eight hours at 37 degrees Centigrade, one aërobically, one anaërobically, and one under partial oxygen tension. Anaërobiosis is obtained by the pyrogallic acid plus alkali method. Partial oxygen tension is obtained by growth in conjunction with heavily seeded plants of *B. subtilis*. At the end of forty-eight hours different type colonies are picked and planted in glucose broth 30 to 40 cubic centimeters in large test tubes. These transplants are incubated for forty-eight hours. Those picked from the aërobic plates are incubated aërobically, those from the anaërobic plates, anaërobically, and those from the partial tension plates under partial oxygen tension. These tubes are stoppered with gauze-covered corks in order that they may be centrifuged. This centrifuging, which is done after the forty-eight-hour incubation period, is accomplished by placing the tubes directly in the large centrifuge cups. The larger size centrifuge cups will accommodate eight to ten tubes. With a large four-cup centrifuge it is possible to centrifuge from thirty to forty tubes at one time. Three thousand revolutions per minute for ten to fifteen minutes is necessary to pack the bacterial sediment well.

The supernatant broth is poured off and a portion of the sediment is transferred to a smaller test tube to be used for the making of antigens for skin test. They are identified by number. At the same time glucose broth is inoculated. These transplants are incubated for twenty-four hours and then filed to be used in identifying the organism if the patient reacts to it.

That portion of the sediment which has been set aside for the skin antigens is now diluted with physiological salt solution sufficient to make a suspension of about 100,000,000 organisms per cubic centimeter. This tube is plugged with cotton and set aside for the moment while slides are made from the original sediment to be Gram-stained to determine proper method to be used in detoxifying. All the tubes are worked up in this fashion and the Gram-staining is done at one time. The Gram-positive organisms are detoxified with $H_2O_2$ (undiluted) and the Gram-negatives with 10 per cent formalin (10 cubic centimeters of formalin plus 90 cubic centimeters of water). About five cubic centimeters of solution is added to each tube and they are incubated for forty-eight to seventy-two hours. The antigen suspensions for skin test are heated in a water bath at 70 degrees Centigrade for one hour, incubated overnight and tested for sterility. Sterility tests are made under aërobic, anaërobic, and partial tension conditions, and incubation is carried on for three days. At the end of forty-eight hours the detoxifying suspensions are centrifugalized at high speed. The supernatant fluid is discarded. This bacterial sediment is washed three times in an abundance of physiological salt solution. This step should be done with great care. After washing, the bacteria are suspended in a small amount of physiological salt solution, made with 0.5 per cent phenol, and incubated for twenty-four hours. They are then placed on file awaiting the report of the skin tests.

When the antigens for skin test, made as above described, have been found to be sterile they are ampouled for use.

On receipt of report of skin test the laboratory proceeds at once to identify all the organisms that have given susceptibility or sensitivity reactions and to make a vaccine from these organisms.

All of the antigens, identification cultures, and detoxified bacterial suspension that have given negative skin tests are at this point discarded. A uniform suspension in phenolized salt solution is then made of all the organisms that are to enter into the making of the vaccine, and the vaccine is made up from these in direct proportion to the skin reactions. A final suspension containing about 200,000,000 per cubic centimeter is made and ampouled for use after sterility tests as above outlined.

### TESTS AND REACTIONS

*Skin Testing.*—It should be borne in mind that the antigens have not been identified and hence duplicates may be found among them which would result in a large dose of vaccine and perhaps produce rather severe constitutional reactions. Nor are the antigens detoxified. Hence, in a not robust patient not more than two or three antigens should be used for testing at one

* Read before the General Medicine Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

time, though we frequently use six in a rugged type. About one minim is injected intracutaneously. Injections should be made about four centimeters apart to avoid confusion from confluent reactions.

*Immediate (Sensitivity) Reactions.*—A reaction in the nature of an erythematous wheal may occur in from ten to thirty minutes and may disappear in from one to five hours. This, Wherry looks upon as indicative of the patient being sensitive to this particular organism though he may not actually be infected with it. Personally, I am inclined to look upon it as a manifestation of a bacterial allergy, which may be of great importance in certain diseases.

*Late (Susceptibility) Reactions.*—Occurring in from ten to twenty-four hours. Similar, but giving a decidedly more inflammatory reaction with tenseness and a deeper, more cyanotic appearance, and persisting several days. This indicates a definite susceptibility to infection with the organism in question.

Reactions are designated as of one, two and three plus degrees, being respectively of one to two, two to three, and three to four or more centimeters in extent.

### DOSAGE

*Dosage and Plan of Therapy.*—Vaccines are made up about 200,000,000 per cubic centimeter. Of this, one minim is given hypodermically (sometimes intradermally in skin diseases) daily. If no constitutional reaction occurs after five or six doses, two minims are employed. In skin diseases, when the condition is looked upon as bacterial allergy, the aim is to desensitize rather than immunize, and the dose is kept low—not to exceed four minims. In arthritis, however, up to ten minims are given in gradually increasing doses. It has been interesting to note on retesting after six weeks that some of the original reactors drop out. Also, we have latterly prepared a new series of antigens after six weeks and note some new organisms present, whereas others may disappear from the group of reactors. It is unfortunate that we have not been able to identify all organisms before testing, but such plan was eliminated as being too expensive. However, we are planning to do so in the future. In most instances the treatment has been continued ninety days before discarding it, in the absence of beneficial results. When apparently helpful it has been continued for as long as six months.

### ANALYSIS OF ARTHRITIS CASES

In the chronic arthritis cases, we met with indifferent success but, nevertheless, with encouragement. Unfortunately, we chose them rather indiscriminately and, interestingly enough, our greatest success was with patients of the chronic infectious type in whom all obvious foci of infection had been previously removed. In all, thirty-nine cases were treated, twenty-three of which fell into the group of chronic infectious arthritis according to Cecil's classification, as demonstrated by fusiform swelling of finger joints, multiplicity of joints involved, narrowing of joint spaces and absence of the hypertrophic lipping, etc., of the degenerative type.

Of the remainder, there were eight cases of hypertrophic spondylitis, six of climacteric arthritis, and two senile arthritis cases. All cases were in females except five hypertrophic spondylitis cases.

Of the thirty-nine cases twenty-two had had tonsils removed; twelve were edentulous; ten had either had antrums opened for permanent drainage or had one or more washings for diagnosis; two had otitis and one had had a mastoid operation. All were negative radiographically for any remaining sinus involvement. Six had appendectomies and five cholecystectomies. There was no venereal history in any, and the five males showed no prostatic infection. Cases showing intestinal parasites were not included. All but one had negative Wassermanns.

Twenty-four gave a history of constipation. In eighteen a gastro-intestinal series was done—one showed a diverticulosis of the colon; twelve a spastic colon; two a questionable appendix from the roentgenologic point of view. Twelve cholecystographies were done—eight were negative, two showed failure to empty properly, and two gave no gall-bladder shadow at all. None of the patients went to surgery.

Of twenty-three patients with chronic infectious history, five were markedly benefited by treatment as manifested by relief of pain and a considerable reduction in the peri-articular swelling to the extent of about 25 per cent of the original remaining in two instances and perhaps 50 per cent in three others. The one patient with infectious spondylitis was entirely freed from pain, the spine was normally flexible afterward and remained so for two years following, when she died of a cerebral hemorrhage. She had had her sinuses drained, teeth out, and tonsils removed some years prior to the onset of her spondylitis. She was one of the patients in whom the gall-bladder failed to show on cholecystography.

Pain in three patients with hypertrophic spondylitis was lessened, but as all were given physiotherapy to correct postural defects, no conclusion can be drawn, many such cases becoming symptom free with correction of posture.

The most interesting feature is that the best results were obtained in patients with chronic infectious arthritis in whom all obvious foci had been removed, for of the five cases showing the most definite results, all had had tonsillectomies, four were edentulous, and the fifth had had all dead teeth removed before coming under treatment. Two had had cholecystectomies and two others appendectomies. All had been chronically constipated for years. This at least suggests that the colon must be included as offering a primary focus of infection in some instances. Except for the irregular use of aspirin or atophan to control pain at times, no treatment other than the vaccine

was used in these cases, the constipation being controlled by cathartics previously used. All had ninety or more doses of vaccine.

REPORT OF SKIN CASES

CASE 1.—Mrs. R. C. P. Married. Forty-three years old. Surgical: Repair, 1918; intestinal obstruction, 1920, with phlebitis of the right leg following cesarian; 1920, eclampsia. Diphtheria in childhood. Pneumonia in early adult life.

*Complaints.*—Pain and swelling in right knee and ankle, shoulder, left elbow, and fingers of both hands. Flatulent indigestion, constipation and dyspnea at times relieved by eructation.

*Examination.*—Marked acne rosacea of twelve years' standing, treated by various dermatologists without success. Becomes worse with exacerbations of intestinal disturbances, constipation, flatulency, etc.

Some mucopurulent discharge from the left antrum. Both antra were washed out nine months and two months ago with negative results. X-rays were negative. Tonsils fibrotic; passed upon as not diseased by specialist. Double denture.

There is a soft basal murmur, not transmitted. Blood pressure, 146/90. Some tenderness in gall-bladder region. Colon is flatulent.

Fusiform swellings of mid-phalangeal joints—first, second, third fingers of the right hand and the second and third of the left hand. The right knee and ankle are puffy and painful, but the entire leg is somewhat edematous due to phlebitis. Right shoulder and left elbow are painful on movement, but show no swelling. The pelvis is negative. The urine is negative. Red cells, 4,610,000; hemoglobin, 81 per cent; white cells, 5950; polynuclears, 77.50; small lymphocytes, 22.25; large lymphocytes, 0.25. Wassermann negative. Blood urea nitrogen, 12.6 milligrams per 100 cubic centimeters of blood. Blood uric acid, 3.2 milligrams per 100 cubic centimeters of blood.

X-rays were negative for gall-bladder disease. Colon spastic, and on manipulation suggested adhesion in region of cecum and mid-transverse colon. Spine shows hypertrophic changes with spur formation.

*Treatment.*—The patient was treated for several months with bile salts, diet, acidophilus milk, etc., with no result, and went East, returning nine months later, at which time a vaccine was prepared from the feces. She was given daily doses of one minim of a 400,000,000 per cubic centimeter vaccine, and after thirty doses she not only felt a definite improvement in joint condition as far as pain was concerned, but noticed a marked fading of the eruption. The treatment was continued for eighty-four doses, at which time there was only a slight flushing at the site of the former eruption. Swelling of joints had materially decreased and pain was absent.

She reported again twenty months afterward. The eruption had entirely disappeared and she had had no joint pain since. The swelling of the phlebitis persists.

Out of ten antigens, the patient reacted to three—an aërobic colon bacillus, an anaërobic colon bacillus, and a *Staphylococcus aureus.*

The foregoing case has been reported rather fully as it was only accidentally that the skin condition came under our observation, and as a result of its apparent cure the next case to be reported was referred by this patient.

CASE 2.—Mr. E. B. H. Forty-seven years old. Previous history negative. Patient began to have eczema in 1908, nineteen years prior to our first consultation. It then involved the inner surface of the left foot below the malleolus and, in spite of treatment by ointments of various sorts and x-ray, it extended as high as the calf. The process remained localized to this area for twelve years and the patient did not continue treatment, as he now recalls, more than a year. The surface of the excoriated area constantly exuded serum during this time and it was necessary to keep it bandaged.

In 1920 he applied to another dermatologist and was treated by "some kind of light treatments," ointments and again x-ray, in spite of which the disease began soon to involve the other leg and appeared in both axillae and on the back in the region of the right shoulder blade.

He then, in 1925, saw another physician who skin-tested him for food sensitization, and for two years he followed the prescribed diet, but with no result.

Examination of this patient revealed nothing abnormal except that he was overweight and had the skin lesions referred to. The serous oozing was so profuse that he had to change bandages and socks two and sometimes three times a day.

He was put on a reducing diet and given vaccine from feces in one minim doses daily for about two months, at which time the lesions on the back and in both axillae had disappeared and on both legs were dry but still scaling. No local treatment was used.

We then lost sight of the patient for seven months, when he returned with a recurrence of seven separate spots on the left arm and two on the right. He had lost nineteen pounds in weight, had dropped from 202 to 183. The legs were still somewhat scaly, but had never oozed serum since the vaccine was employed.

The old vaccine had been kept and was used again for sixty doses with a progressive improvement, and in two months all the lesions had disappeared with the exception of a small area which continued to show a flaky scaling on the left ankle. It is now twenty-three months since he was treated and there is no recurrence. The organisms to which this patient was sensitive were ***B. coli communis*** (aërobic), ***B. coli communior, B. proteus,*** a diphtheroid bacillus and an anaërobic ***B. coli.***

CASE 3.—Mr. F. M., thirty-two years old. Except for a poliomyelitis four years ago, there is nothing remarkable in the previous history. The patient complains of an itching skin, which has caused him to scratch vigorously and as a result multiple furuncles have developed over the entire back and shoulders. This dates back ten years. He has seen two dermatologists, who are unable to identify the cause. Has been given lotions, etc., with transient relief only. The Wassermann is negative, the blood count normal, and the sugar-tolerance test normal. In spite of the latter, he finds that starch restriction is helpful, but loses weight too rapidly on this regimen to make it feasible.

The physical examination is negative except for some residue from the poliomyelitis, and the skin condition antedated this illness by six years at least. His blood uric acid varied from 3.4 to 2.5 milligrams per 100 cubic centimeters of blood without dietary restrictions.

His back presented a mass of fresh scratches with multiple small furuncles in various stages. There was marked dermatographia, and the wheal produced by irritation became very itchy.

In this instance a vaccine was made from the feces in the hope of desensitizing the patient and thus help to overcome the itching, and at the same time another was taken from the furuncles (a *Staphylococcus aureus*) for immunization purposes. The former was used in one minim doses daily and the latter in increasing, immunizing doses at four-day intervals.

The fecal vaccine was of *B. coli* (aërobic) and a diphtheroid bacillus.

The patient has thus far had one hundred and twenty doses of the fecal vaccine and thirty doses of the *Staphylococcus aureus* vaccine, the latter being given intradermally. He states that the itching has disappeared to a marked degree and that the furunculosis is 75 per cent cleared. At present he is having no treatment, but will have another series of antigens prepared for retesting before long.

CASE 4.—Mr. R. L. S. Fifty-nine years old. In excellent general health, with normal laboratory findings. Psoriasis of ten years' standing. He has been irregularly under treatment by a dermatologist, who used x-ray with success on certain lesions, but because of the danger of losing his hair the patient would not consider x-ray therapy to lesions in the scalp. There were two large patches, each the size of a silver dollar, above each ear and a slightly smaller area of involvement in the occipital region.

A fecal vaccine was prepared for him and out of nine antigens there were four reactors, two of which showed marked early reactions, indicating sensitiveness to the organism in question. These were an aërobic colon bacillus and a streptococcus from which the vaccine was made. Daily injections of one minim were given for one week, then two minims, three minims and four minims for a week each. The local reactions were slight and the dose was gradually put up to eight minims. He has had about ninety vaccine treatments in all.

In the beginning the itching and scaling were very marked and the patient found himself constantly scratching his head, and his shoulders were covered with dry scales. In a month's time there was practically no itching and the areas were reduced by more than 50 per cent. Now, after three months, it is possible to find only four patches in the scalp, none larger than an ordinary pimple, and there is no scaling or itching. The patient states that he cannot recall at any time in the past seven years that his scalp has been in as good condition as at present. We are discontinuing treatment to note the effect in the course of another month or two.

## COMMENT

In addition to the dermatological cases reported, there was an intractable recurring pityriasis which is now free for three years. A patient with chronically recurring angioneuredema of long standing has now gone over a much longer time than ever before without recurrence, but still she has had only four months of freedom and we claim nothing as yet. Another case is that of an exfoliative dermatitis which has recurred for the fourth time, and is now under treatment. All skin cases had either been tested for food allergies and diet found ineffective, or food allergies had been entirely ignored.

How may we explain the results obtained in these dermatological conditions? Eczema has long been considered an allergic disease. Psoriasis has never been satisfactorily catalogued as to etiology, but is not unlikely to be allergic in type. Pityriasis is probably allergic. So is angioneuredema. But they are not necessarily food allergies. Our results speak rather more forcibly for bacterial allergies or possibly the production of a protein-split product, the result of bacterial overdigestion of certain proteins in the bowel. In Case 3 reported, the vaccine was made from the organisms obtained from the feces and to which the patient was sensitive and, in addition, from the *Staphylococcus aureus* from the furuncles. In other words, the itching seems to have been controlled by the desensitization process and the furunculosis by an immunization process. This suggests that in the future it may be well to pay considerable attention to the two types of reaction in skin testing, my present impression being that the skin diseases of doubtful etiology may receive more benefit from those organisms which give an immediate or sensitivity reaction.

230 Grand Avenue.

## DISCUSSION

F. M. POTTENGER, M.D. (Monrovia).—Doctor Strietmann's paper is a very timely one in that it suggests a method of therapeutic attack for a certain group of diseases which have always provided difficult problems for the clinician. Since the idea of focal infection was first introduced into medicine, it has been applied to various conditions with varied success; in fact, the many failures have probably overbalanced the successes. Focal infection is one of the greatest conceptions that have entered modern medicine. The difficulty is to establish it on a sound basis. A certain type of arthritis is now recognized as being due to metastatic infection. This fact being established, it becomes necessary to find the source, as well as the nature, of the original infection.

There has been a general attempt to treat arthritis by removal of the foci of infection. This would be comparatively simple if the infection were always in some organ of comparatively little value to the individual, and provided it could be removed with ease; but the treatment of focal infection has resolved itself into removing tonsils, teeth, colons, appendices, operating on sinuses, always with the uncertainty that, after all, the correct focus might not have been reached.

The dermatological cases reported by Doctor Strietmann are also of great interest. Certain types of asthma, hay fever, and urticaria will fall in this same line. While many students of the subject have always felt that the removal of organs, unless they be definitely infected, was not scientific, yet they have considered their sacrifice necessary. If we bear in mind that the cure of all infections is brought about by the establishment of immunity, Doctor Strietmann's method gives a more rational approach in these metastatic conditions. Our only method of therapeutic approach to an infection produced by bacteria whose mode of action consists largely in cellular irritation is through vaccines. Our difficulty in this method of treatment is its uncertainty. There have been attempts to treat many types of infection by vaccines made from secretions and excretions, or focal contents, but often the vaccine did not include the pathogenic organisms. With Wherry's method, as followed by Doctor Strietmann, the greatest patience is used in making the vaccine. Cultures are made and tested on the individual, and no culture is used unless the individual proves to be sensitive to it. In this way a vaccine will often include certain organisms that probably are not responsible for the infection that is being treated; but no harm will result, for it may be safely said that if a person does react to a vaccine, with an allergic response, it means that he is at the time, or has been in the past, infected with that organism. So by utilizing those bacteria to which the individual is allergic, we bring about a more scientific approach to the therapy of the disease.

It is hoped that Doctor Strietmann's plan will be followed by other investigators. I have known certain cases of sinusitis to be relieved by vaccine made according to Wherry's plan. This appears to be an improved method of approaching what heretofore has been a very unsatisfactory field in medicine.

❀

WILLIAM J. KERR, M. D. (University of California Hospital, San Francisco).—Doctor Strietmann's paper emphasizes the fact that much can be done for the patient with chronic arthritis after due attention is paid to the general condition of the patient and measures are taken to put him in a better position to fight his infection. We have passed through a long period of radical surgery for the eradication of the foci of infection and very often the patient has been neglected in dealing with the foci problem. I have long felt that in many instances at least the foci of infection appear as a result of the debility of the individual and that the foci themselves are not primarily the cause of the arthritis. For that reason I have directed a good deal of attention to measures which will build up the general health, removing, when necessary, definite foci of infection.

The various types of vaccine which have been used in the patient and such measures as will produce protein shock have all served a purpose. They give the patient at least a "new deal" and either by improving the general circulation by vasomotor relaxation or by promoting antibody reactions tend to bring about general improvement. Whether we agree with the authors that the local disturbance in the joint is brought about by an allergic state, or whether there is some other immunological principle involved, it does seem at times that specific vaccines have a definite value. It seems quite certain that there is some general metabolic disturbance, using the term in its broadest sense, which is back of this group of conditions. I do not think that we have yet determined the fundamental process which is involved, but we are nearer to the solution than we have ever been in the past.

❦

Fred H. Kruse, M. D. (384 Post Street, San Francisco).—Doctor Strietmann's work has interested me chiefly in its relation to the therapy of chronic arthritis. The voluminous literature that has appeared and is appearing on the classification, etiology, and treatment of the arthritides is sufficient evidence of the difficulties we are encountering and of our failure in controlling this disease.

I still think that we must proceed rather radically in the elimination of focal infections in every part of the body; but when that is done there will yet remain epithelial tissues and lymph structures in the nasal sinuses, throat, lungs, genito-urinary system and gastro-intestinal tract that harbor and disseminate organisms that undoubtedly continue to invade the joints. Further surgical eradication is impossible, but the many specific immunological factors, disordered metabolic and internal glandular functions that determine and control our resistance to infections offer a fertile and intriguing field for speculation and attack. Doctor Strietmann has indicated the possibilities that may result in raising the specific resistance powers of the individual. Doctor Kerr has suggested the importance of studying the general constitutional needs. Of the latter, the glandular dystrophies and obesities; the influence of heredity; the diet in relation to the protein and vitamin needs of the individual and his ability to metabolize carbohydrates and eliminate glucose must all be taken into consideration. In association with the work of Doctor Strietmann in his use of specific vaccines from the intestinal tract, it is interesting to compare the report of H. Warren Crowe in the August issue of *The Journal of Laboratory and Clinical Medicine* in reference to his isolation of certain strains of streptococci and the so-called *"Micrococcus deformans"* from stools and other surface foci of the body, and the excellent results obtained in the use of vaccines containing these organisms.

It is evident from the immunological side of this problem, then, in the light of Strietmann's and Crowe's reports, that vaccines have more than the accredited protein shock value—a real specific value if the actual pathogenic organisms can be isolated. To secure the proper organisms is difficult and requires the procedures described by the authors.

The problem of the intestinal tract plagues us all. I have consistently felt that mere colonic irrigations, high or low, with or without acidophilus implantations by tube, could never do more than afford temporary improvement and that if the intestine actually causes arthritis, a more specific method of treatment must be evolved.

The viewpoint of Crowe that the offending organisms are harbored in the small intestine and must be secured from there further complicates the problem. Pemberton has described unusual conditions of the intestinal tract which are present in the course of chronic arthritis and often precede it. He notes this condition especially in the colon as seen by x-ray, consisting of elongation, widening, tortuosity, and inertia of that organ. Fletcher has claimed that the bowel may be returned to a normal condition by dietary control, including curtailment of the carbohydrate intake, adequate ingestion of protein, and a large vitamin content. Catharsis as so generally practiced frequently defeats its own aims and leaves only an irritated and inflamed mucous membrane, from which greater absorption takes place. By more gradual and natural measures with the proper diet, adequate elimination and improved bowel tonus can be attained with a minimum of toxic absorption.

❦

Doctor Strietmann (Closing).—Whether one believes that focal infections are the direct cause of arthritis or that indirectly by disturbing the normal metabolism they lower resistance and are predisposing, at present our attitude should be in favor of the removal of any frank focus as the first step in the treatment of arthritis. One may still argue whether disease is the precursor of bacteria appearing in the body tissues or the reverse, but their unquestioned presence calls for removal where feasible.

There is not much doubt that chronic infections exhaust the thyroid and probably the suprarenals, and there is an apparently definite type of climacteric arthritis. One should, therefore, always bear in mind the glandular dystrophies and disordered states of metabolism and use all means to correct them.

I, too, question the value of colonic irrigations. In fact, it is not improbable that they may do harm by increasing absorption. The "enema rash" (and cathartic rash) are an evidence of this.

Another matter to be pointed out in relation to both the allergic skin diseases and the allergic conception of arthritis is the danger of depleting the patient by the drastic so-called "elimination diets." It is not reasonable to assume that an individual who has eaten certain foods all his life suddenly becomes sensitive to them. However, one may conceive that some protein split products may develop as the result of deficient digestion, or even bacterial overdigestion, to which the patient may be sensitive. Similarly, as a result of changed intestinal environment, new strains of bacteria may develop to which *per se* the body is unaccustomed and sensitive. In either of the two latter premises, fecal vaccines, developed according to the Wherry method, may prove a valuable aid.

---

## RETROBULBAR NEURITIS AND MULTIPLE SCLEROSIS

### SOME OBSERVATIONS WITH QUANTITATIVE CHARTS AND REPORT OF CASE

PART I

*By* Clifford B. Walker, M. D.
*Los Angeles*

Discussion *by Dohrmann K. Pischel, M. D., San Francisco; M. F. Weymann, Los Angeles.*

DOUBTLESS many ophthalmologists have read and reread with sharply focused and perhaps startled attention the following lines in a recent masterly contribution by Professor Harvey Cushing[1]: "Somewhat to his embarrassment it is the ophthalmologist who must make the final decision between a possible intranasal or a possible intracranial primary cause of an existent optic atrophy." And still further, "What we must all strive for is to avoid futile operation either on the part of the neurosurgeon, or on the part of the rhinologist." Ophthalmologists may have been all attention at this point, but how many were prepared for this exquisite addition: "Unquestionably misdirected procedures would less often be carried out if the ophthalmologist took it on himself not only to make the decision, but to put it to the test by conducting his own intracranial and